AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-12 (canceled)

13. (**Currently Amended**): A method for pre-detecting responses in a secondary radar, the responses to be pre-detected including a message coded by a modulated signal, the method comprising:

~~a step of identification, during which the presence of a signal exhibiting modulation characteristics in accordance with those of a message of a response to be pre-detected is detected;~~ a step (i) of identification, during which detection is made of the presence of a modulated signal with modulation characteristics corresponding to said modulation characteristics of a message included in a response to be pre-detected,

a step (ii) of measurement during which the duration of the identified modulated signal is measured; and

a step (iii) of comparison during which the said ~~duration of the signal identified is compared to a minimum duration, the minimum duration being determined on the basis of an expected duration of the messages of the responses to be pre-detected~~ duration of the identified modulated signal is compared to a minimum duration, which is defined as being shorter than the duration of the message includes in any of the responses to be pre-detected.

14. (**Currently Amended**): ~~The method as claimed in claim 13, wherein the messages are coded by a position-modulated signal, the presence of a signal is identified when a sequence of pulses is present in which each pulse of the sequence is separated from that which precedes by at the most a duration of the order of a modulation period~~ The method as claimed in claim 13, wherein, the message being coded by the modulated signal in position, the presence of said modulated signal is identified by detecting a sequence of pulses, in which said each pulse is separated from the previous pulse by at most a duration of the order of a modulation period.

15. (**Currently Amended**): The method as claimed in claim 14, wherein, when said modulated signal corresponding to the message is identified, ~~generating~~ a slot is generated ~~whose~~ duration at which is substantially equal to the duration between ~~separating~~ the first pulse ~~from~~ and the last pulse of the sequence of pulses, to within about a modulation period ~~identifies the presence of a signal~~.

16. (**Currently Amended**): ~~The method as claimed in claim 15, wherein the said slot is generated from, the detected pulses and from a stable signal generated on the basis of the detection for a duration equal to the maximum time until the next detection of a message pulse~~ The method as claimed in claim 15, wherein said slot is produced from the detected pulses by producing a stable signal beginning with the detection of the first pulse of the sequence and finishing with the detection of the last pulse.

17. (**Currently Amended**): The method as claimed in claim 16, wherein the said pulses are detected by comparing the modulated signal to a threshold~~thresholding with respect to a level~~ determined as a function of a peak level of the modulated signal.

18. (**Currently Amended**): ~~The method as claimed in claim 16, wherein the duration of the said stable signal generated on the basis of a falling edge is substantially equal to the duration of a modulation period plus 20%~~ The method as claimed in claim 16, wherein said stable signal is generated beginning with a falling edge of the pulse and has duration substantially equal to the duration of a period of modulation raised by 20%.

19. (**Currently Amended**): The method as claimed in claim 18, ~~in which~~ wherein [[the]] said pulses are detected by comparing the modulated signal to a threshold ~~thresholding with respect to a level~~ determined as a function of a peak level of the modulated signal.

20. (**Currently Amended**): The method as claimed in claim 15, ~~in which~~ wherein the duration of the identified modulated signal is ~~measured~~ determined by measuring the duration of the slot.

21. (**Currently Amended**): The method as claimed in claim 13, ~~in which~~ wherein the responses to be pre-detected being mode S responses, the minimum duration of the messages is of the order of 56 microseconds for short responses or of the order of 112 microseconds for long responses.

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22. (**Currently Amended**): A method for detecting responses in a secondary radar, the responses to be detected including a preamble and a message, the preamble including protocol data, the message being coded by a modulated signal, the method comprising:

a step of <u>pre-detecting the responses to be detected, a response being pre-detected by</u> <u>identifying the message that it comprises</u> ~~pre-detection during which a method for pre-detecting~~ ~~responses according to claim 1, to pre-detect the responses to be detected~~ is used;

a step of determination during which forecast position of the preamble of each pre-detected response is determined; and

a step of checking during which the presence of the determined protocol data at said forecast position of the preamble is checked~~[[.]]~~<u>;</u>

<u>wherein the step of pre-detection implements the method further comprising:</u>

<u>a step (i) of identification, during which detection is made of the presence of a</u> <u>modulated signal with modulation characteristics corresponding to said modulation</u> <u>characteristics of a message included in a response to be pre-detected,</u>

<u>a step (ii) of measurement during which the duration of the identified modulated</u> <u>signal is measured; and</u>

<u>a step (iii) of comparison during which the said duration of the identified modulated</u> <u>signal is compared to a minimum duration, which is defined as being shorter than the</u> <u>duration of the message includes in any of the responses to be pre-detected.</u>

23. (**Currently Amended**): The method of detection as claimed in claim 22, ~~in which~~ <u>wherein</u> the forecast position of the preamble is determined on the basis of the ~~start~~ <u>beginning</u> or of the end of the <u>modulated</u> signal identified in <u>the pre-detection step</u> ~~step (ii) of the method of pre-detection~~.

24. (**Currently Amended**): The method as claimed in claim 22, ~~in which~~ <u>wherein</u> the responses to be detected being mode S responses, a detection is generated when at least N pulses out of four are ~~present~~ <u>detected</u> at the forecast position of the preamble, where N is a parameter whose value lies between 1 and 4, the limit value 1 being used to detect very scrambled responses, the limit value 4 being used to detect clear responses.

25. (**Currently Amended**): A method for detecting responses in a secondary radar, the responses to be detected comprising a message coded by a modulated signal, said method comprising:

~~a step of detection during which method of pre-detection as claimed in claim 13, to pre-detect the responses to be detected, is implemented and~~ a step of pre-detecting the responses to be detected, a response being pre-detected by identifying the message that it comprises;

a step of generation during which a clock signal with a binary tempo is generated ~~at a message-based binary tempo~~ from the message included in the response;

a step of precisely determining the position of the beginning of the response ~~is precisely determined~~ on the basis of the beginning or of the end of the message[[.]];

wherein the step of pre-detection implements the method further comprising:

a step (i) of identification, during which detection is made of the presence of a modulated signal with modulation characteristics corresponding to said modulation characteristics of a message included in a response to be pre-detected,

a step (ii) of measurement during which the duration of the identified modulated signal is measured; and

a step (iii) of comparison during which the said duration of the identified modulated signal is compared to a minimum duration, which is defined as being shorter than the duration of the message includes in any of the responses to be pre-detected.